

Amendments to the Specification:

On page 1, prior to the first paragraph which begins on line 3, please insert the following:

FIELD OF THE INVENTION

On page 1, prior to the second paragraph which begins on line 15, please insert the following:

BACKGROUND OF THE INVENTION

On page 4, prior to the paragraph which begins on line 20, please insert the following:

SUMMARY OF THE INVENTION

On page 5, please delete the paragraphs beginning on line 18 to the bottom of the page at line 34.

On page 6, please delete the paragraphs beginning at line 1 to line 27.

On page 6, prior to the paragraph which begins on line 28, please insert the following:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 7, prior to the paragraph which begins on line 5, please insert the following new title and subsequent new paragraphs:

DESCRIPTION OF THE PREFERRED EMBODIMENTS

In a preferred embodiment of the apparatus of the invention, the coupling element comprises at least two coupling wedges, which are successively traversed by the ultrasonic measuring signals. Preferably, the coupling wedges are made of plastics with different sound velocities.

The element portions, or the coupling wedges, as the case may be, comprise, in an advantageous embodiment of the apparatus of the invention, different materials, with the materials being selected such that temperature-related changes of sound velocity, or the index of refraction, of a first element portion, or a first coupling element, as the case may be, are at least approximately compensated by temperature-related changes of sound velocity, or index of refraction, of at least a second element portion, or a second coupling wedge, as the case may be. Preferably, the compensation occurs over as great a temperature range as possible.

In an alternative embodiment of the apparatus of the invention, a plurality of element portions, or a plurality of mutually connected coupling wedges, as the case may be, of different materials are provided, with the materials being so selected that temperature-related changes of sound velocity, or index of refraction, of the medium and temperature-related changes of the sound velocities, or indices of refraction, in the at least two element portions, or coupling wedges, essentially mutually compensate one another.

With this embodiment, the influence of temperature fluctuations of the medium on the in-coupling, or out-coupling, angle can be directly eliminated, or the effects can be kept so small, that the measurement accuracy is only insignificantly degraded.

In an advantageous embodiment of the apparatus of the invention, it is provided that the path lengths, which the ultrasonic measuring signals trace in the element portions of the coupling wedges, or the lead-in members, are so selected, that the sum of the corresponding travel times, which the ultrasonic measuring signals require for traversing the element portions, is at least approximately constant over a predetermined temperature range. This is achieved preferably by the appropriately selected dimensioning of the element portions. This embodiment assures that, almost independently of temperature changes, always the maximum signal amplitude of an ultrasonic measuring signal is received from each ultrasonic transducer. More or less complex readjustments of the ultrasonic transducers on the pipe due to temperature changes in the sensors are, consequently, not required.

On page 13, please delete the page in its entirety.